

Application No. 10/010,202

Remarks

The above-referenced application filed pursuant to 35 USC §120 and 37 CFR §1.53(b) and §1.78(a) is a continuation of Ser. No. 09/454,834 filed December 6, 1999.

The claims before the Patent and Trademark Office are claims 1, 2, 4-6 and 8-10, which claims the PTO rejected under §102(b) over Franke (WO 97/21867), for reasons set forth at pages 2-3 of Paper No. 4.

In particular, the PTO has presently taken the position that :

...“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production.” (citing In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to the product itself, the PTO has previously taken the position that :

“Franke discloses a transfer sheet including a carrier sheet; a one- or multi-colored pattern printed on the carrier sheet using a digitally controller color printer; a transparent or white-pigmented layer printed configuratively by silk screen printing on the pattern; a layer of glue positioned over at least said white-pigmented layer or the transparent or white-pigmented layer includes an adhesive.” (In reference to the parent application, Ser. No. 09/454,834, please refer to page 2 of Paper No. 7.)

Applicant agrees with the PTO that “patentability is based on the product itself”.

Patentability of the product thus is based upon the rule that “[a]nticipation under 35 USC §102 requires the presence in a single prior art disclosure of each and every element of a claimed invention.” Lewmar Marine v. Barient, 827 F.2d 744; 1987 U.S. App. LEXIS 496; 3 USPQ2d 1766 (Fed. Cir., 1987). In that regard, “[t]he classic test of anticipation provides : ‘That

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which will infringe, if later, will anticipate if earlier.'... ." Lewmar Marine, 827 F.2d 744; 1987 U.S. App. LEXIS 496; 3 USPQ2d 1766.

Because the PTO concedes that "product-by-process claims are limited by and defined by the process," it therefore logically follows that Franke may not properly be cited as a 35 USC §102 reference against the Applicants' claims, if the claims presently before the PTO disclose a process limitation that is not disclosed in Franke.

Claims 2, 4, 9 and 10 (each independent) may be distinguished as follows.

Briefly, Applicants' position is that these claims are distinguishable over WO 97/21867 to Franke. Present claim 2 recites, inter alia, that a layer of glue (positioned over a layer of white colored material) includes heat activatable thermoplastic polymeric glue. [Support may, e.g., be found in the application at page 5, line 27 through page 6, line 3; at page 14, lines 9-18; and at page 17, lines 24-25.] Present claim 4 recites, inter alia, that a colored pattern (in general) includes first and second layers of different colors. [Support may, e.g., be found in the application at page 5, line 27 through page 6, line 3; at page 7, line 26 through page 8, line 5; and, e.g., at page 9, lines 7-9.] Present claim 9 recites, inter alia, that a layer of white colored material includes a toner material. [Support may, e.g., be found in the application at page 5, line 27 through page 6, line 3; and at page 12, line 26 through page 13, line 6.] Present claim 10 recites, inter alia, a further included transparent layer printed on the surface of the carrier sheet with the colored pattern being printed thereover. [Support may, e.g., be found in the application at page 5, line 27 through page 6, line 3; and at page 18, lines 22-27.]

Moreover, "the rule is well established that where one has produced an article in which invention rests over prior art articles, and where it is not possible to define the characteristics which make it inventive except by referring

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to the process by which the article is made, he is permitted to so claim his article, but is limited in his protection to articles produced by his method referred to in the claims." *Atlantic Thermoplastics v. Faytex*, 970 F.2d 834; 1992 U.S. App. LEXIS 15888; 23 USPQ2d 1481 (Fed. Cir., 1992).

In this regard, it is accordingly respectfully submitted that it is not possible to define the characteristics which make claims 2, 4, 9 and 10 inventive over the prior art except by referring to the process by which each such claimed article is made.

In view of the above, it is believed that the above-discussed claims presently before the Patent Office are patentably distinguishable over WO 97/21867 to Franke.

For continuity purposes pursuant to 35 USC §112 and 37 CFR §1.51(b), claim 1 links the priority document (Ser. No. 09/454,834 filed 12/6/99) to the present application.

Upon reviewing the above remarks, if the examiner is persuaded that this continuation application and its present claims 2, 4-6 and 8-10 are, in general, in condition for allowance, then the examiner may telephone the undersigned to propose canceling claim 1 via examiner's amendment or via documents which may be sent to the PTO via facsimile, if such would expedite allowance of the above-enumerated claims.

Moreover, because all general requirements under not only 35 USC §112 but also 37 CFR §1.51(b) and §1.53(b) appear to have been satisfied, it is further believed that the present continuation application appears to be in condition for allowance.

Accordingly, an early action to that effect is respectfully solicited.

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Conclusion

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is requested to call Applicants' attorney, Jerome D. Drabiak, at telephone number (585) 422-4114, Rochester, New York.

Respectfully submitted,

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Terms: product-by-process w/2 claims (Edit Search)

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970 F.2d 834, *; 1992 U.S. App. LEXIS 15888, **;
23 U.S.P.Q.2D (BNA) 1481

ATLANTIC THERMOPLASTICS CO., INC., JAMES B. SULLIVAN and RICHARD B. FOX, Plaintiffs-Appellants, v. FAYTEX CORPORATION, Defendant/Cross-Appellant.

91-1076,-1095

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

970 F.2d 834; 1992 U.S. App. LEXIS 15888; 23 U.S.P.Q.2D (BNA) 1481

July 13, 1992, Decided

PRIOR HISTORY: [**1]Appealed from: U.S. District Court for the District of Massachusetts. Judge Harrington

DISPOSITION: VACATED-IN-PART, AFFIRMED-IN-PART, and REMANDED

CASE SUMMARY

PROCEDURAL POSTURE: Plaintiff appealed order of United States District Court for District of Massachusetts, holding defendant not liable for patent infringement in distributing patented product manufactured by different process. Defendant appealed, finding that plaintiff's patent not invalidated by 35 U.S.C.S. §102(b) (1988).

OVERVIEW: Plaintiff owned patent containing both process and **product-by-process** claims for a shock absorbing shoe innersole made from an elastomeric material and polyurethane foam. Defendant distributed half-sole innersoles, or heel cups, with elastomeric heel inserts manufactured by two different manufacturers using two different processes. Plaintiff sued defendant for infringing the patented process. The district court held process infringed by product of one of the manufacturers only. Patent was not invalid under on-sale bar of 35 U.S.C.S. § 102(b) (1988). Plaintiff awarded lost profits. This appeal followed. This court vacated and remanded judgment on validity of patent for proper on-sale analysis. Infringement judgment affirmed; process of one manufacturer infringed patent, as it contained all the claim limitations. Second manufacturer used different process to achieve an albeit indistinguishable product, thus, no infringement of **product-by-process** claim. Damage award vacated. Error in calculating lost profits, market share approach should have been utilized.

OUTCOME: The court affirmed infringement rulings; one manufacturer's process included all claim limitations, thus, infringing the patent; second manufacturer utilized different process to create his product, so no infringement of **product-by-process** claim; vacated ruling on validity of patent, and remanded for proper on-sale analysis; damage award vacated for recalculation of lost profits.

CORE TERMS: patent, product-by-process, infringement, insert, innersole, invention, mold, elastomeric, heel, patentability, polyurethane, artificial, liquid, alizarine, infringe, specification, on-sale, new process, infringed, foam, oil, solid, plate, tack, dam, tackiness,

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infringer, retailer, general rule, surface

LexisNexis™ HEADNOTES - Core Concepts - [Hide Concepts](#) [Patent Law > Statutory Bars > On Sale](#)

HN1* A defendant in a patent infringement case bears the burden of showing invalidity under the on-sale bar defined by 35 U.S.C.S. § 102(b) (1988), by clear and convincing evidence.

[Patent Law > Statutory Bars > On Sale](#)

HN2* A single sale or offer to sell suffices to bar patentability.

[Civil Procedure > Appeals > Standards of Review > Clearly Erroneous Review](#) [Civil Procedure > Appeals > Standards of Review > De Novo Review](#) [Patent Law > Statutory Bars > On Sale](#) [Patent Law > Jurisdiction & Review > Standards of Review](#)

HN3* Appellate review of an on-sale bar under 35 U.S.C.S. § 102(b) (1988), proceeds as a question of law. Thus, the appeals court reviews the trial court's conclusion de novo, with factual findings underlying that conclusion subject to review for clear error.

[Patent Law > Statutory Bars > On Sale](#)

HN4* To invoke the on-sale bar under 35 U.S.C.S. § 102(b) (1988), a defendant must prove that the complete claimed invention is embodied in or obvious in view of the thing sold or offered for sale before the critical date. The on-sale bar invalidates a patent for an invention offered for sale, even though not ready for satisfactory commercial marketing.

[Patent Law > Statutory Bars > On Sale](#)

HN5* If a patent owner seeks to avoid the on-sale bar under 35 U.S.C.S. § 102(b) (1988), on the basis that a sale or offer was experimental, a trial court must determine whether the patent owner sought the sale primarily for profit rather than as part of a testing program. To determine whether profit motivated a transaction, a court must examine the claimed features, the offeror's objective intent, and the totality of the circumstances.

[Patent Law > Statutory Bars > On Sale](#)

HN6* Mere offers to sell trigger the on-sale bar rule under 35 U.S.C.S. § 102(b) (1988).

[Civil Procedure > Trials > Bench Trials](#)

HN7* After a bench trial, a trial court must put forth the findings of fact relied upon to justify its actions. Fed. R. Civ. P. 52(a).

[Patent Law > Infringement > Claim Interpretation](#)

HN8* Patent claims are interpreted in light of the claim language, the specification, and the prosecution history proceeding from the vantage point of one skilled in the art.

[Patent Law > Specification & Claims > Claim Language](#)

HN9* Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process.

[Patent Law > Novelty & Anticipation](#)

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Patent Law > Specification & Claims > Claim Language

HN10* A patent applicant cannot obtain exclusive rights to a product in the prior art by adding a process limitation to the product claim. A new process, although eligible for a process patent, cannot capture exclusive rights to a product already in the prior art.

Patent Law > Specification & Claims > Claim Language

HN11* The infringement inquiry for product claims with process limitations focuses on whether the accused product is made by the claimed process or its equivalent. In reviewing for infringement, the courts follow the rule that the process limits a **product-by-process claim**.

Patent Law > Specification & Claims > Claim Language

HN12* Although a product has definite characteristics by which it may be identified apart from the process, still, if in a claim for the product it is not so described, but is set forth in the terms of the process, nothing can be held to infringe the claim which is not made by the process.

Patent Law > Specification & Claims > Claim Language

HN13* A claim to a product by a specific process is not infringed by the same product made by a different process. **Product-by-process claims** are usually deemed infringed only by a product made by the same process.

Patent Law > Patentable Subject Matter > Processes Patent Law > Novelty & Anticipation Patent Law > Utility Requirement > Proof of Utility Patent Law > Nonobviousness > Tests & Proof of Obviousness Patent Law > Specification & Claims > Claim Language

HN14* An applicant can obtain a process patent for a new, useful, and nonobvious process, but cannot claim rights to a product already in the prior art by merely adding a process limitation.

Patent Law > Specification & Claims > Claim Language

HN15* Even though **product-by-process claims** are limited by and defined by the process, determination of patentability is based on the product itself.

Patent Law > U.S. Patent & Trademark Office Prosecution Procedures > Examination of Applications

HN16* Courts permit the United States Patent and Trademark Office to give claims their broadest reasonable meaning when determining patentability.

Patent Law > Infringement > Claim Interpretation

HN17* The courts must consult the specification, prosecution history, prior art, and other claims to determine the proper construction of the claim language.

Patent Law > Infringement > Claim Interpretation

HN18* Patent infringement requires the presence of every claim limitation or its equivalent. An accused infringer can avoid infringement by showing that the accused device lacks even a single claim limitation.

Patent Law > Infringement > Claim Interpretation

HN19* Patent infringement analysis compares the accused product with the patent claims, not an embodiment of the claims.

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Patent Law > Specification & Claims > Claim Language

HN20 Process terms in **product-by-process claims** serve as limitations in determining infringement.

COUNSEL: Jack R. Pirozzolo, Willcox, Pirozzolo & McCarthy, of Boston, Massachusetts, argued for plaintiffs-appellants. With him on the brief was Richard L. Binder.

Anthony M. Lorusso, Lorusso & Loud, of Boston, Massachusetts, argued for defendant/cross-appellant. With him on the brief was Thomas M. Sanders. Of counsel were John F. Bomster, Alder, Pollock & Sheehan, Inc., of Providence, Rhode Island and George A. Loud, of Arlington, Virginia.

JUDGES: Before ARCHER, MICHEL, and RADER, Circuit Judges.

OPINIONBY: RADER

OPINION: [*835] RADER, Circuit Judge.

Atlantic Thermoplastics owns U.S. Patent No. 4,674,204 ('204 patent) entitled "Shock Absorbing Innersole and Method of Preparing Same." Atlantic sued Faytex Corporation n1 for infringing the '204 patented process with innersoles manufactured by two separate processes. After a bench trial, the United States District Court for the District of Massachusetts held that Faytex infringed the '204 patent by selling innersoles manufactured by Surge, Inc. The court held, however, that Faytex did not infringe the '204 patent by selling innersoles manufactured [**2] by Sorbothane, Inc. Atlantic Thermoplastics Co. v. Faytex Corp., No. 88-0210-H (D. Mass. July 27, 1990). The trial court also determined that the '204 patent is not invalid under the on-sale bar of 35 U.S.C. § 102(b) (1988).

- - - - - Footnotes - - - - -

n1 Faytex makes numerous requests for sanctions under Fed. Cir. R. 38 and under 35 U.S.C. § 285 (1988). Section 285 does not permit sanctions except in exceptional cases. Faytex is the accused infringer and thus, cannot accuse Atlantic of willful infringement. Faytex does not allege that Atlantic brought or conducted its suit in bad faith. In any event, this court does not consider Atlantic's appeal frivolous. Faytex's sanction requests lack merit. Unfounded requests for sanctions are themselves frivolous and sanctionable.

- - - - - End Footnotes - - - - -

This court affirms the district court's infringement determination. Because unable to determine whether the district court applied the correct legal standards under section 102(b), this court vacates the district court's judgment as to validity and remands for findings [**3] on the on-sale issue. Because the trial court improperly determined damages, this court also remands for recalculation of lost profits, if liability is again established.

BACKGROUND

The '204 patent contains both process **claims** and **product-by-process claims** for a shock absorbing shoe innersole. The innersole is formed in a mold having a contoured heel and arch section. Two different materials combine to make the innersole: an elastomeric material in the heel section, and a polyurethane foam. The elastomeric heel insert enhances shock absorption. The polyurethane foam forms around the heel insert and supplies the rest of the

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innersole.

Claim 1 of the '204 patent defines the process:

In a method of manufacturing a shock-absorbing, molded innersole for insertion in footwear, which method comprises:

(a) introducing an expandable, polyurethane into a mold; and

(b) recovering from the mold an innersole which comprises a contoured heel and arch section composed of a substantially open-celled polyurethane foam material, the improvement which comprises:

(i) placing an elastomeric insert material into the mold, the insert material having greater shock-absorbing properties and [**4] being less resilient than the molded, open-celled polyurethane foam material, and the insert material having sufficient surface tack to remain in the placed position in the mold on the introduction of the expandable polyurethane material so as to permit the expandable polyurethane material to expand about the insert material without displacement of the insert material; and

[*836] (ii) recovering a molded innersole with the insert material having a tacky surface forming a part of the exposed bottom surface of the recovered innersole.

Faytex distributes half-sole innersoles, or heel cups, with an elastomeric heel insert. Two different manufacturers -- Surge Products and Sorbothane -- make Faytex's innersoles. The Surge process for making innersoles differs from the Sorbothane process. Surge first manually places a solid elastomeric insert into the heel section of the innersole mold. Surge then injects polyurethane around the solid heel insert to form the innersole. Sorbothane, on the other hand, first injects a liquid elastomeric precursor into the mold, which solidifies to form the heel insert. While the heel insert is solidifying, Sorbothane injects polyurethane into the same mold to [**5] form the rest of the innersole.

The parties agree that the Surge process infringes the '204 patent. The district court concluded that the Sorbothane process did not infringe the '204 patent. The district court read the claims to require placement of a solid elastomeric insert into the mold. This reading leaves injection of liquid elastomers outside the scope of the claims. Atlantic contests this construction.

Because Faytex does not manufacture the innersoles, Atlantic cannot charge Faytex with infringement of the process claims. However, claim 24 of the '204 patent states: "The innersole produced by the method of claim 1." Atlantic argues that Faytex, by distributing products allegedly made by the claimed process, is liable as an infringer. Faytex cross-appeals from the award of lost profit damages for the sale of Surge and Sorbothane innersoles. Faytex also appeals the district court's determination that the '204 patent is not invalid under the on-sale bar of 35 U.S.C. § 102(b).

DISCUSSION

I. On Sale Bar

Faytex asserts that the '204 patent is invalid because the claimed invention was on sale more than one year before the filing date of the application. HN1 Faytex bears [**6] the burden of showing invalidity under section 102(b) by clear and convincing evidence. See Bulldex Inc. v. Kason Indus., 849 F.2d 1461, 1462-63, 7 USPQ2d 1325, 1326-27 (Fed. Cir. 1988). To prevail, Faytex had to show that Atlantic sold or offered for sale the claimed innersole before October 9, 1984. HN2 A single sale or offer to sell suffices to bar patentability. In re Caveney, 761 F.2d 671, 676, 226 USPQ 1, 4 (Fed. Cir. 1985). This court must determine whether the district court erred in concluding that Faytex did not meet its burden.

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HN3 Appellate review of an on-sale bar proceeds as a question of law. U.S. Envtl. Prods. v. Westall, 911 F.2d 713, 715, 15 USPQ2d 1898, 1900 (Fed. Cir. 1990). Thus, this court reviews the trial court's conclusion de novo, with factual findings underlying that conclusion subject to review for clear error. Manville Sales v. Paramount Sys., 917 F.2d 544, 549, 16 USPQ2d 1587, 1591 (Fed. Cir. 1990); Moleculon Research v. CBS, Inc., 793 F.2d 1261, 1266, 229 USPQ 805, 808 (Fed. Cir. 1986), cert. [**7] denied, 479 U.S. 1030 (1987).

HN4 To invoke the on-sale bar, a defendant must prove that the complete claimed invention is embodied in or obvious in view of the thing sold or offered for sale before the critical date. UMC Elecs. Co. v. United States, 816 F.2d 647, 656, 2 USPQ2d 1465, 1471 (Fed. Cir. 1987), cert. denied, 484 U.S. 1025 98 L. Ed. 2d 761, 108 S. Ct. 748 (1988). The on-sale bar invalidates a patent for an invention offered for sale, even though not ready for satisfactory commercial marketing. Barmag Barmer Maschinenfabrik AG v. Murata Mach., 731 F.2d 831, 838, 221 USPQ 561, 567 (Fed. Cir. 1984). **HN5** If a patent owner seeks to avoid the on-sale bar on the basis that a sale or offer was experimental, UMC, 816 F.2d at 657, a trial court must determine whether the patent owner sought the sale primarily for profit rather than as part of a testing program. To determine whether profit motivated a transaction, a court must examine the claimed features, In re Smith, 714 F.2d 1127, 1136, 218 USPQ 976, 984 (Fed. Cir. 1983), [*837] the offeror's objective intent, [**8] and the totality of the circumstances, U.S. Environmental Products, 911 F.2d at 716.

Despite the many issues affecting any application of the on-sale bar rule, the district court's sole finding in this case consists of a conclusory statement:

[Atlantic's] first offer to sell and a definite sale were made to Triangle Corporation after October 9, 1984 in January of 1985, as the invention was not commercially marketable before that time

Atlantic Thermoplastics, slip op. at 26. The district court did not provide any findings of fact or analysis for its conclusion. Moreover, the district court's finding does not consider several offers to sell before October 1984. The district court apparently assumed, incorrectly, that mere **HN6** offers do not trigger the on-sale bar rule. In any event, in the absence of findings, this court cannot determine whether the trial court properly considered those offers of sale and therefore applied the correct legal standard.

HN7 After a bench trial, a trial court must put forth the findings of fact relied upon to justify its actions. Fed. R. Civ. P. 52(a). Without findings, this court has no basis to evaluate whether [**9] the district court's analysis uses the proper legal standard. Cf. Nutrition 21 v. United States, 930 F.2d 867, 869, 18 USPQ2d 1347, 1349 (Fed. Cir. 1991) (preliminary injunction). Because the absence of findings goes to the heart of the issue, any error cannot be harmless error. Therefore, this court vacates the district court's judgment on validity and remands for a proper on-sale analysis.

II. Infringement

The district court determined that infringement turned on the proper interpretation of two claim limitations: "placing an elastomeric insert material into the mold" and "the insert material having sufficient surface tack to remain in the placed position on the introduction of the expandable polyurethane material." Atlantic Thermoplastics, slip op. at 14. According to the trial court, these limitations

describe a method of manufacturing innersoles by which a solid or cellular preformed elastomeric insert material is manually placed or put in the heel portion of the mold and an open-celled expandable polyurethane foam material is then injected or poured into the mold

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so as to expand about the solid preformed elastomeric insert material without [**10] displacement of the insert material.

Id. at 15. The court further held that the claim requires that the solid insert material be held in position by the inherent "tack" of the material. The trial court specifically rejected any interpretation which allowed injection of the heel insert as a liquid into the mold.

HNS This court interprets the '204 patent claims in light of the claim language, the specification, and the prosecution history. Hormone Research Found. v. Genentech, Inc., 904 F.2d 1558, 1562, 15 USPQ2d 1039, 1042-43 (Fed. Cir. 1990), cert. dismissed, 111 S. Ct. 1434 (1991). This interpretation proceeds from the vantage point of one skilled in the art. Smithkline Diagnostics v. Helena Labs., 859 F.2d 878, 882, 8 USPQ2d 1468, 1471 (Fed. Cir. 1988).

The parties agree that the district court correctly determined that the Surge process includes each limitation of claim 1. Therefore, the Surge process infringes the '204 patent.

The Sorbothane process is a "two-pour" process which first injects a liquid elastomer and then a liquid polyurethane into the mold. The Sorbothane mold includes a [**11] dam which outlines the heel placement of the insert. This dam captures and confines the liquid elastomer. The dam ensures that the elastomer solidifies in place to form the heel insert. Thus, upon injection of the liquid elastomeric material, the dam -- not the tack of the elastomeric material -- holds the insert in place during introduction of polyurethane foam.

The district court found that the Sorbothane process did not literally infringe the '204 patent for two reasons. First, the injection of liquid elastomeric material did not fit within the "placing" limitation. As a liquid, the court determined that the insert [*838] lacked the elastomeric qualities specified in the claim. Second, the district court determined that the dam, rather than the tackiness, held the insert in place in the mold. Thus, according to the district court, the Sorbothane process did not satisfy the tackiness limitation of the claim.

This court finds no clear error in the district court's findings that in situ molding of the liquid elastomeric insert material does not fit within the placing limitation. "Placing an elastomeric insert material into the mold" is a limitation in claim 1. The Sorbothane process [**12] introduces a liquid insert into a mold within the larger innersole mold. The specification repeatedly refers to the insert as a "solid or cellular material" not a liquid. Furthermore, upon introduction under the Sorbothane process, the liquid polyurethane lacks elastomeric properties. The district court's finding comports with the language used in the '204 claims. Substantial evidence from expert witnesses supports the district court's interpretation.

This court also finds no clear error in the district court's finding that the Sorbothane process does not use tackiness to hold the elastomeric insert in place during injection of the polyurethane foam.

The trial court specifically found that the "tackiness of the chemical composition has no effect on the 'Sorbothane' process, as an essential component of this process is the use of a teflon-coated mold, sprayed with mold release, designed to reduce any surface tack, thus facilitating release of the heel cup from the mold." Atlantic Thermoplastics, slip op. at 20. The record suggests no clear error in this finding. The teflon-coated mold and mold release of the Sorbothane process inhibit the tackiness of the solidified insert. [**13] Thus, tackiness does not hold the insert immobile during insertion and expansion of the polyurethane foam. Rather, as the district court found, the small dam in the heel section holds the elastomeric material in place during its liquid and solid states. The Sorbothane process thus does not meet the "surface tack" claim limitation.

The district court also found no infringement under the doctrine of equivalents. The trial court

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determined that the way the Sorbothane process performed its function was substantially different from that claimed in the '204 patent. The district court found that use of a dam to hold the insert in place is substantially different from use of tack to perform the same function. This court discerns no clear error in this finding.

This court finds no basis to reverse the district court's non-infringement finding on the Sorbothane process. Therefore, this court affirms the district court's determination that Sorbothane innersoles do not infringe claim 24 of the '204 patent.

III. Product-by-Process Claims

In the alternative, Atlantic argues that Scripps Clinic & Research Foundation v. Genentech, Inc., 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991) [**14] demands reversal of the non-infringement finding, even under the district court's present interpretation of the claims. In Scripps Clinic, this court stated:

The correct reading of **product-by-process claims** is that they are not limited to product prepared by the process set forth in the claims.

Id., at 1583. Atlantic states that the Sorbothane process results in innersoles which are indistinguishable from innersoles made by the Surge process and claimed in the '204 patent. Therefore, according to Atlantic, the Sorbothane innersoles -- though made by a different non-infringing process -- also infringe. In sum, Atlantic urges this court to ignore the process claim language in its **product-by-process claim**.

A. Supreme Court and Regional Circuit History

To construe and apply the **product-by-process claim** of the '204 patent, this court must examine the history of products claimed with process terms. n2 This inquiry [*839] begins with several century-old Supreme Court cases.

-----Footnotes-----

n2 This court in Scripps Clinic ruled without reference to the Supreme Court's previous cases involving product claims with process limitations. In the absence of responsive briefing of the issues by the Scripps Clinic parties, this court noted that it was reviewing an "undeveloped record," and devoted one paragraph to resolving the jurisdictional issue and one paragraph to the merits. Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1583-84, 18 USPQ2d 1001, 1015 (Fed. Cir. 1991). A decision that fails to consider Supreme court precedent does not control if the court determines that the prior panel would have reached a different conclusion if it had considered controlling precedent. See Tucker v. Phyfer, 819 F.2d 1030, 1035 n.7 (11th Cir. 1987). For the reasons set forth below, we necessarily so conclude.

-----End Footnotes----- [**15]

In Smith v. Goodyear Dental Vulcanite Co., 93 U.S. 486, 493, 23 L. Ed. 952 (1877), the Supreme Court construed a patent claiming a "plate of hard rubber, or vulcanite, or its equivalent, for holding artificial teeth, or teeth and gums, substantially as described." This claim was not drafted in contemporary product-by-process terms, but instead incorporated the specification. The specification, in turn, described a process for embedding teeth in soft vulcanite which later hardened to hold the artificial teeth firmly in place. n3 The Supreme Court stated that the product could not be separated from the process by which it was made:

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The invention, then, is a product or manufacture made in a defined manner. It is not a product alone separated from the process by which it is created. . . . The process detailed is thereby made as much a part of the invention as are the materials of which the product is composed.

Smith, 93 U.S. at 493. The Supreme Court concluded that both the process and the product of that process were patentable. Id. at 493, 494, 501.

-----Footnotes-----

n3 Incorporation of the specification into the claim is contrary to current claim practice. See, e.g., SRL Int'l v. Matsushita Elec., 775 F.2d 1107, 1121, 227 USPQ 572, 585 (Fed.Cir. 1985) (in banc). Under the old practice for claims with the phrase "substantially as described," the Supreme Court treated the specification as part of the claim. Thus, the specification added process limitations to the claimed product. Smith v. Goodyear Dental Vulcanite Co., 93 U.S. 486, 494, 23 L. Ed. 952 (1877) ("If, then, the claim be read, as it should be, in connection with the preceding part of the specification, and construed in the light of the explanation which that gives, the invention claimed and patented is [the dental plate produced by the vulcanization process].").

-----End Footnotes----- [**16]

A few years later, the same patent was again before the Supreme Court -- this time in an infringement context. Goodyear Dental Vulcanite Co. v. Davis, 102 U.S. 222, 26 L. Ed. 149 (1880). A district court had held that a celluloid plate for artificial teeth with its differing process did not infringe the patent. The Supreme Court first quoted from its Smith opinion to clarify that the patent claimed both product and process. On that basis, the Supreme Court concluded:

Hence, to constitute an infringement of the patent, both the material of which the dental plate is made, or its equivalent, and the process of constructing the plate, or a process equivalent thereto, must be employed.

Id. at 224. After noting that "the [celluloid] process is wholly unlike that employed in making hard rubber or vulcanite plates," Id. at 229, the Court affirmed the district court's noninfringement decree. The Court also reasoned that the product of that process, a celluloid plate, is not "substantially the same as one made of hard rubber." Id.

Another Supreme Court case in this time frame illustrated the significance of claiming a product [**17] with process limitations. In Merrill v. Yeomans, 94 U.S. 568, 24 L. Ed. 235 (1877), the patentee of heavy hydrocarbon oils deodorized by an innovative process sued retailers. These retailers sold a product nearly identical to the patentee's oil, though deodorized by a different process. As the Supreme Court noted, if the patent claimed "a new oil," then the sellers of that product may be liable as infringers. Id. at 568. If, on the other hand, the patent claimed only the process, the retailers did not use that, or any other, process. Id.

The Court again read the process language in Merrill's specification as a limitation on the claims. Id. at 571. Merrill [* 40] argued, for good reason, against this interpretation:

The counsel for appellant disclaim this latter construction, and allege that the patent covers the oil described, by whatever mode it may be produced. It is necessary to insist on this view, because it is made to appear in the case that the oils sold by defendants were

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produced by a process very different from that described by appellant.

Id. The Supreme Court noted that Merrill's counsel had to make that argument because [**18] defendants sold oil made by a different process. In discussing the process limitations, the Court said

by the well-settled rules of construing all instruments, some importance must be attached to them; and, if they are to be regarded at all, they must either refer to the process of making the oils for which the applicant is claiming a patent, or they are intended to limit his claim for a patent for the product to that product only, when produced by treating the oils in the manner before described.

Id. (emphasis added). The Court concluded that Merrill claimed only a process. n4 Therefore, the retailers were not proper parties.

-----Footnotes-----

n4 This case suggests, however, that **product-by-process claims** may serve to bring retailers within the scope of an infringement action. Indeed in the case at bar, Atlantic Thermoplastics has sued Faytex, a retailer, under the **product-by-process claims** of the '204 patent.

-----End Footnotes-----

In Cochrane v. Badische Anilin & Soda Fabrik, 111 U.S. 293, 28 L. Ed. 433, 4 S. Ct. 455 (1884) (BASF), the Supreme [**19] Court considered an infringement case. BASF involved alizarine, a dye. BASF obtained Reissue Patent No. 4,321 covering the product; artificial alizarine, as produced by a bromine reaction process. The claim stated:

Artificial alizarine, produced from anthracine or its derivatives by either of the methods herein described, or by any other method which will produce a like result.

Id. at 296. The Supreme Court noted, "No. 4,321 furnishes no test by which to identify the product it covers, except that such product is to be the result of the process it describes." Id. at 305, n5.

-----Footnotes-----

n5 The court construed the seemingly broad language "by any other method which will produce a like result" as being limited to "any process substantially the same" as the two methods described in the specification (presumably the cause of the underlined phrase). Cochrane v. Badische Anilin & Soda Fabrik, 111 U.S. 293, 296, 305-06, 28 L. Ed. 433, 4 S. Ct. 455 (1884) (emphasis added) (BASF).

-----End Footnotes-----

Cochrane, [**20] the accused infringer, sold artificial alizarine made by a sulfuric acid reaction process. BASF sued Cochrane for infringing the 4,321 patent. The district court determined that Cochrane's product made by a sulfuric process infringed the 4,321 patent. The circuit agreed. Before the Supreme Court, BASF contended that Cochrane Infringed because it made artificial alizarine "from anthracine or its derivatives by some method." Id. at 309 (emphasis added). BASF argued that Cochrane made artificial alizarine; therefore, the

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process did not matter. Id. at 310. The Supreme Court disagreed. n6

-----Footnotes-----

n6 In reversing, the Supreme Court observed that Cochrane sold "alizarine . . . which was not made by the process described in No. 4,321, or any process substantially the same." BASF, 111 U.S. at 296; see also Id. at 305-06. Cochrane's "bisulpho-acid process" produced artificial alizarine, but in a different form from the bromine process of the 4,321 patent. Id. at 305. BASF continued to argue, however, that its patent embraced all forms of artificial alizarine. To this the Supreme Court responded that because artificial alizarine can take different forms, BASF's claim would be indefinite unless limited to the described process:

Unless it is shown that the process of No. 4,321 was followed to produce the defendants' article, or unless it is shown that that article could not be produced by any other process, the defendants' article cannot be identified as the product of the process of No. 4,321. . . . If the words of the claim are to be construed to cover all artificial alizarine, whatever its ingredients, . . . we then have a patent for a product or composition of matter, which gives no information as to how it is to be identified.

Id. at 310.

-----End Footnotes----- [**21]

Instead, the Supreme Court enunciated a rule for products claimed with process limitations:

HN9 Every patent for a product or composition of matter must identify it so that it [*841] can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process.

Id. at 310. Based on this standard, the Supreme Court held the claim of the 4,321 patent not infringed because the defendants had used a different process.

After stating this rule for claim construction, the Supreme Court offered an alternative "view of the case." BASF, 111 U.S. at 311. BASF's artificial alizarine was an "old article." Id. In the words of the Supreme Court, "While a new process for producing it was patentable, the product itself could not be patented, even though it was a product made artificially for the first time." Id.; see also The Wood-Paper Patent, 90 U.S. 566, 596, 23 L. Ed. 31 (1874). In other words, HN10 a patent applicant could not obtain exclusive rights to a product in the prior art by adding a process limitation to the product claim. A new process, although eligible for a process [*22] patent, could not capture exclusive rights to a product already in the prior art. Therefore, BASF could have claimed a new process for making artificial alizarine, but it had no rights to claim the product. n7

-----Footnotes-----

n7 The United States Court of Claims followed BASF's rule in Tri-Wall Containers v. United States, 187 Ct. Cl. 326, 408 F.2d 748, 161 USPQ 116 (Ct. Cl.), cert. denied, 396 U.S. 828, 24 L. Ed. 2d 79, 90 S. Ct. 78 (1969):

The addition of a method step in a product claim, which product is not patentably distinguishable from the prior art, cannot impart patentability to the old product.

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Id. at 750-51. In adopting the opinion of one of its trial commissioners, the Court of Claims ensured that an applicant who seeks rights only to a new process may not validly claim an old product. The applicant could only claim rights to a new process.

- - - - - End Footnotes - - - - -

Thus, in *BASF*, the Supreme Court addressed both infringement and validity (in terms of patentability) of product claims containing process [**23] limitations. In judging infringement, the Court treated the process terms as limitations on the patentee's exclusive rights. In assessing validity in terms of patentability, the Court forbade an applicant from claiming an old product by merely adding a new process. The infringement rule focused on the process as a limitation; the other rule focused on the product with less regard for the process limits. A decision from the Patent Office, for instance, cited *BASF* twice -- once for an infringement rule and once for a patentability rule. *Ex parte Fesenmeier*, 1922 C.D. 18, 302 Off. Gaz. Pat. Office 199 (1922).

In *Plummer v. Sargent*, 120 U.S. 442, 30 L. Ed. 737, 7 S. Ct. 640 (1887), the Supreme Court reviewed two patents. One claimed an improved process for bronzing or coloring iron; another claimed the product of that process. *Id.* at 443. After reviewing the prior art and descriptions of both patents, the Court stated:

It may be assumed that the new article of manufacture called Tucker bronze is a product which results from the use of the process described in the patent, and not one which may be produced in any other way. So that, whatever likeness [**24] may appear between the product of the process described in the patent and the article made by the defendants, their identity is not established unless it is shown that they are made by the same process.

Id. at 448. After finding it "difficult, if not impossible" to discern differences between the accused product and the product claimed with process limitations, the Court concluded that "the two processes differ." *Id.* at 449. Accordingly, the Court affirmed the circuit court's noninfringement ruling. *Id.* at 450.

In *General Electric v. Wabash Appliance*, 304 U.S. 364, 82 L. Ed. 1402, 58 S. Ct. 899 (1938), the Supreme Court considered a product claim for a filament in incandescent lamps. Under R.S. 4888 (the forerunner of the current 35 U.S.C. § 112 (1988)), the Supreme Court determined that the claim did not adequately describe the invention. *General Elec.*, 304 U.S. at 368. In reviewing the claim, the Court considered whether the process described in the specification made the claim [*842] more definite. In that context, the Court stated:

Although in some instances a claim may validly describe a new product with some [**25] reference to the method of production, a patentee who does not distinguish his product from what is old except by reference, express or constructive, to the process by which he produced it, cannot secure a monopoly on the product by whatever means produced.

General Elec., 304 U.S. at 373 (footnote omitted). At that point, the Court quoted from *BASF*: "nothing can be held to infringe the patent which is not made by that process." *Id.* at 373-74.

Thus, the Supreme Court stated in a line of cases *HN12* that the infringement inquiry for product claims with process limitations focuses on whether the accused product was made by the claimed process or its equivalent. In reviewing for infringement, the regional circuits followed the rule that the process limits a **product-by-process claim**. For instance, in *Hide-It Leather v. Fiber Products*, 226 F. 34 (1st Cir. 1915), the United States Court of Appeals for the First Circuit affirmed the trial court's noninfringement holding because the accused product was not made by the claimed process or its equivalent. The First Circuit stated:

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It is also a well-recognized rule that, ^{HN12} although [*26] a product has definite characteristics by which it may be identified apart from the process, still, if in a claim for the product it is not so described, but is set forth in the terms of the process, nothing can be held to infringe the claim which is not made by the process.

Id. at 36; see also Paeco, Inc. v. Applied Moldings, 562 F.2d 870, 876, 194 USPQ 353, 358 (3d Cir. 1977); United States Gypsum Co. v. Consolidated Expanded Metal Cos., 130 F.2d 888, 893, 55 USPQ 247, 252 (6th Cir.), cert. denied, 317 U.S. 698, 87 L. Ed. 558, 63 S. Ct. 441 (1943); Buono v. Yankee Maid Dress Corp., 77 F.2d 274, 279, 26 USPQ 57, 61 (2d Cir. 1935); Downes v. Teter-Heany Dev. Co., 150 F. 122, 124 (3d Cir.), cert. denied, 205 U.S. 543, 51 L. Ed. 2d 922, 27 S. Ct. 790 (1907).

In Parke, Davis & Co. v. American Cyanamid Co., 207 F.2d 571, 572, 99 USPQ 237, 238 (6th Cir. 1953), the patentee's product claim included a process limitation: "said acid being the acid derived by autolysis of mammalian liver tissue." The Sixth Circuit determined that a synthetic folic ^{**27} acid process did not infringe the claimed extraction process. Id. Likewise, the Seventh Circuit in National Carbon Co. v. Western Shade Cloth Co., 93 F.2d 94, 97 (7th Cir. 1937), cert. denied, 304 U.S. 570, 82 L. Ed. 1535, 58 S. Ct. 1039 (1938), stated: "It has been said that a claim for a product produced by any process which will produce a like result covers the product only when made by equivalent processes." Indeed sister circuits that examined the standard for infringement of **product-by-process claims** uniformly followed the Supreme Court's lead.

Commentators have generally read this line of cases to mean that, in infringement proceedings, the process in a **product-by-process claim** serves as a limitation. In his treatise, Donald Chisum states:

A "**product-by-process**" claim is one in which the product is defined at least in part in terms of the method or process by which it is made. Most decisions hold that such a claim is infringed only by a product made through a substantially identical process

2 D. Chisum, Patents § 8.05 (1991) (footnotes omitted). n8 Lipscomb's Walker on Patents states:

^{HN13} A claim to a product by a specific process is not infringed ^{**28} by the same product made by a different process.

3 E. Lipscomb III, Lipscomb's Walker on Patents § 11:19 (3d ed. 1985). Another legal text states:

Product-by-process claims are usually deemed infringed only by a product made by the same process.

[*843] 1 Iver P. Cooper, Biotechnology and the Law § 5B.05[2] (1991). Finally, one treatise concludes:

There is considerable case authority supporting the position [that **product-by-process claims** cover only products made by the process specified in the claim] including a nineteenth century Supreme Court decision.

[This precedent represents] a hundred years of prior law

2 Martin J. Adelman et al., Patent Law Perspectives § 2.6[10] (2d ed. 1991). These commentators discerned a rule treating process terms as limitations on **product-by-process claims** in infringement actions.

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-----Footnotes-----

n8 Cases referred to by Chisum as supporting a contrary position involved patentability and not infringement.

-----End Footnotes-----

B. PTO and Court of Customs and Patent Appeals (CCPA)

The CCPA consistently [**29] stated the general rule that an applicant must claim an article of manufacture by its structural characteristics, not by reference to its manufacturing process. For instance, the court stated:

This court has repeatedly held that a claim for an article capable of such definition must define the article by its structure and not by the process of making it.

In re Johnson, 55 C.C.P.A. 1463, 394 F.2d 591, 594, 157 USPQ 620, 623 (CCPA 1968); In re Lifton, 189 F.2d 261, 89 USPQ 641 (CCPA 1951); In re McKee, 95 F.2d 264, 266, 37 USPQ 209, 210 (CCPA 1938). Thus, the Patent and Trademark Office's Manual of Patent Examining Procedure (MPEP) still refers to **product-by-process claims** as "peculiar" in comparison to products "claimed in the conventional fashion." MPEP 706.03(e) (5th ed. 1983, rev. 1989). Recognizing this rule, the CCPA contrasted **product-by-process claims** with "true product claims." In re Hughes, 496 F.2d 1216, 1219, 182 USPQ 106, 108 (CCPA 1974).

As early as 1891, the Patent Office -- though recognizing the general rule -- acknowledged the need for an exception:

[**30]

It requires no argument to establish the proposition that as a rule a claim for an article of manufacture should not be defined by the process of producing that article. . . . When the case arises that an article of manufacture is a new thing, a useful thing, and embodies invention, and that article cannot be properly defined and discriminated from the prior art otherwise than by reference to the process of producing it, a case is presented which constitutes a proper exception to the rule.

In re Painter, 57 Off. Gaz. Pat. Office 999 (1891) (emphasis in original).

For years, the PTO, with the approval of the CCPA, limited this exception to those instances where the applicant could describe an invention in no way other than in terms of its manufacturing process. See, e.g., In re Bridgeford, 53 C.C.P.A. 1182, 357 F.2d 679, 149 USPQ 55 (CCPA 1966); In re Moeller, 117 F.2d 565, 567, 48 USPQ 542 (CCPA 1941); Fesenmeier, 302 Off. Gaz. Pat. Office 199. The CCPA also recognized further reasons for the product-by-process exception:

The right to a patent on an invention is not to be denied because of the limitations of the English [**31] language The limitations of known technology concerning the subject matter sought to be patented should not arbitrarily defeat the right to a patent on an invention.

Bridgeford, 357 F.2d at 682. Thus, where applicants could not adequately describe their inventions in terms of structural characteristics, whether due to language lagging behind innovations or existing technology lagging behind in the ability to determine those characteristics, the court permitted product-by-process claiming. n9

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n9 During this "rule of necessity" era, applicants had to justify **product-by-process claims** with a showing that they could not otherwise claim their invention. See, e.g., Ex parte Tiffin, 167 USPO 359, 360 (Bd. App. 1969). For this reason, applicants and the courts drew lines distinguishing product claims which included incidentally a process limitation from products claimed solely or primarily in process terms. See, e.g., In re Moore, 58 C.C.P.A. 1042, 439 F.2d 1232, 1236, 169 USPO 236, 239 (CCPA 1971) (The structural claim included the process words "highly fluorinated." The court expressly found that these were not **product-by-process claims**). In Moore, the product claims contained sufficient structural characteristics to define the invention even though it also contained a reference to how the product was made. Id.; In re Steppan, 55 C.C.P.A. 791, 394 F.2d 1013, 156 USPO 143 (CCPA 1967) (The claim referred to a "condensation product." The court found no **product-by-process claim**); In re Luck, 476 F.2d 650, 177 USPO 523 (CCPA 1973). **Product-by-process claims**, on the other hand, define the invention solely or primarily in terms of process. See, e.g., In re Hughes, 496 F.2d 1216, 182 USPO 106 (CCPA 1974).

- - - - - End Footnotes - - - - - [**32]

[*844] Circuit Judge Learned Hand explained that this exception protected inventors' exclusive rights to their inventions to the degree that they were able to define their innovation:

It might be possible to patent a product merely as the product of a machine or process . . . While it would in that case not be infringed by anything but the product of the machine or of the process, it might be an important protection . . .

Buono, 77 F.2d at 279. In particular, Judge Learned Hand foresaw important product-by-process protections against infringement "if the machine or the process was used in another country and the product imported." Id. As noted, however, this claim format remained an exception to the general rule.

As product-by-process claiming became more common, the CCPA moved toward accepting **product-by-process claims** without a showing of necessity. In 1969, the court reversed a Board of Appeal's decision holding a **product-by-process claim** improper because the applicant could claim the invention without relying on the process. In re Pilkington, 56 C.C.P.A. 1237, 411 F.2d 1345, 162 USPO 145 (CCPA 1969). The court instead determined

[**33] that the applicant had adequately described the invention in accordance with the requirements of section 112. Id. Thus, the court shifted the emphasis away from the necessity for product-by-process claiming and toward determining whether the claim adequately defines the invention. Bridgeford, 357 F.2d at 682-83.

In Hughes, the CCPA permitted **product-by-process claims** even though the applicant could describe the invention in structural terms. Hughes, 496 F.2d at 1219. The court regarded "true product claims" as broader in scope than **product-by-process claims** -- a distinction which acknowledges the process as limiting the scope of the claim. Therefore, an applicant could claim a product in product-by-process terms as a hedge against the possibility that those broader product claims might be invalidated. Id. The court, however, continued to regard **product-by-process claims** as an exception to the general rule. Id. at 1218.

The overall effect of these cases made the product-by-process exception more available to applicants. The CCPA began to handle an increasing number of cases [**34] where applicants sought exclusive rights to an old or obvious product claimed by reference to a new process for its manufacture. See, e.g., In re Avery, 518 F.2d 1228, 186 USPO 161 (CCPA

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1975); In re Fessmann, 489 F.2d 742, 180 USPQ 324 (CCPA 1974); In re Brown, 59 C.C.P.A. 1036, 459 F.2d 531, 173 USPQ 685 (CCPA 1972). The court uniformly followed the Supreme Court's rule. ^{HN14}An applicant could obtain a process patent for a new, useful, and nonobvious process, but could not claim rights to a product already in the prior art by merely adding a process limitation.

As the PTO confronted more **product-by-process claims**, it encountered a daunting administrative task. In weighing patent-ability, the PTO lacked facilities to replicate processes and compare the resultant product with prior art. The CCPA recognized this difficulty:

As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.

Brown, 459 F.2d at 535, n10 The PTO's administrative [**35] difficulty presented another reason that the CCPA continued to regard **product-by-process claims** as exceptions to the general rule. Hughes, 496 F.2d at 1218.

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n10 Infringement litigation, however, did not confront this administrative difficulty. In focusing on a single patent, a trial court could adduce evidence showing precisely the product resulting from the claimed process. Then a comparison with prior art products facilitated a judgment of validity in light of sections 102 and 103.

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In assessing patentability, moreover, the PTO necessarily concentrated on discerning [*845] what product or products might result from the processes in the claim. To prevent an applicant from obtaining exclusive rights to an old product by merely claiming a new process, the PTO needed a practical administrative tool. This stress on the product was appropriate because "the invention so defined is a product and not a process." Bridgeford, 357 F.2d at 682 (emphasis in original). [**36] This point of emphasis, however, did not deny that the process language in the claim was a defining limit of the product claim. Rather, the process limitation defined a product, not a process. Indeed, the court in Bridgeford called the process a claim limitation. See also Brown, 459 F.2d at 535; Hughes, 496 F.2d at 1218.

The CCPA, even in reviewing only for patentability, treated the claimed process as a limitation. In Hughes, for instance, the court clarified that the process defines and limits the scope of the claim. Hughes, 496 F.2d at 1218-19 (product claim was of a broader scope than **product-by-process claims**). In fact, if the process limitations of a **product-by-process claim** did not adequately define the invention, an applicant would fail to satisfy section 112. See id.; Brown, 459 F.2d at 535. In other words, the process is a defining limit.

The CCPA also explicitly acknowledged that the process operates as a limitation in infringement actions. In Bridgeford, the court stated:

The policy of the Patent Office in permitting **product-by-process** [**37] type claims . . . has developed with full cognizance of the fact that in infringement suits some courts have construed such claims as covering only a product made by the particular process . . .

357 F.2d at 682 n.5 (emphasis in original); see also In re Hirao, 535 F.2d 67, 69 n.3, 190 USPQ 15, 17 n.3 (CCPA 1976). In Moeller, the court stated:

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We think the rule is well established that where one has produced an article in which invention rests over prior art articles, and where it is not possible to define the characteristics which make it inventive except by referring to the process by which the article is made, he is permitted to so claim his article, but is limited in his protection to articles produced by his method referred to in the claims.

117 F.2d at 568.

In sum, the PTO and the CCPA acknowledged **product-by-process claims** as an exception to the general rule requiring claims to define products in terms of structural characteristics. This exception, however, permitted an applicant to claim a product in process terms, not to acquire exclusive rights to a product already in **[**38]** the prior art. Though using only process terms, a product-by-process applicant sought rights to a product, not a process. Therefore, the applicant had to show that no prior art product anticipated or rendered obvious the product defined in process terms.

The PTO and the CCPA did not reason that the process was not a defining limit of the product. To the contrary, the process was the only way to define and limit -- in sum, to claim -- the product. Hughes, 496 F.2d at 1218. Thus, in both patentability actions before the CCPA and infringement actions before the Supreme Court or the regional circuits, the courts regarded the process language in **product-by-process claims** as limiting the claim. Indeed by definition in most cases, the product could not be claimed in any other terms.

This court, in its initial consideration of a **product-by-process claim** for patentability, acknowledged that process claim limitations define the product:

Product-by-process claims are not specifically discussed in the patent statute. The practice and governing law have developed in response to the need to enable an applicant to claim an otherwise patentable product that resists **[**39]** definition by other than the process by which it is made. For this reason, **HN15** even though **product-by-process claims** are limited by and defined by the process, determination of patentability is based on the product itself.

In re Thorpe, 777 F.2d 695, 697, 227 USPO 964, 966 (Fed. Cir. 1985).

[*846] The entire history of **product-by-process claims** suggests a ready explanation for the apparent difference of view about treatment of those claims during ex parte administrative proceedings and during litigation. This court already distinguishes treatment of claims for patentability before the PTO from treatment of claims for validity before the courts. In re Zletz, 893 F.2d 319, 321, 13 USPO2d 1320, 1322 (Fed. Cir. 1989). **HN16** This court permits the PTO to give claims their broadest reasonable meaning when determining patentability. Id.; see also J.P. Stevens & Co., v. Lex Tex Ltd., 747 F.2d 1553, 1566, 223 USPO 1089, 1098 (Fed. Cir. 1984), cert. denied, 474 U.S. 822, 88 L. Ed. 2d 60, 106 S. Ct. 73 (1985). During litigation determining validity or infringement, however, this approach is inapplicable. Zletz, 893 F.2d at 321; **[**40]** DeGeorge v. Bernier, 768 F.2d 1318, 1322 n.2, 226 USPO 758, 761 n.2 (Fed. Cir. 1985). **HN17** Rather the courts must consult the specification, prosecution history, prior art, and other claims to determine the proper construction of the claim language. See, e.g., Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1021, 4 USPO2d 1283, 1286, 5 Fed. Cir. (T) 129 (1987). Thus, accommodating the demands of the administrative process and recognizing the capabilities of the trial courts, this court treats claims differently for patentability as opposed to validity and Infringement. The PTO's treatment of **product-by-process claims** as a product claim for patentability is consistent with policies giving claims their broadest reasonable interpretation. The same rule, however, does not apply in validity and infringement litigation. In any event, claims mean the same for infringement and validity. See, e.g., Senmed, Inc. v.

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Richard-Allan Medical Indus., 888 F.2d 815, 818 n.7, 12 USPQ2d 1508, 1511 n.7 (Fed. Cir. 1989); Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 223 USPQ 603 (Fed. Cir. 1984). [**41]

Moreover, accepting Atlantic's invitation to ignore the process limitations in the '204 patent's **product-by-process claims** would require this court to disregard several other mainstay patent doctrines. For instance, Atlantic in effect invites this court to discount the significance of excluding claim limitations from infringement analysis. See, e.g., Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405, 419, 52 L. Ed. 1122, 28 S. Ct. 748 (1908) ("The claims measure the invention"). This court has repeatedly stated that HN18 **Infringement requires the presence of every claim limitation or its equivalent.** See Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935, 4 USPQ2d 1737, 1739-40 (Fed. Cir. 1987) (in banc), cert. denied, 485 U.S. 961, 99 L. Ed. 2d 426, 108 S. Ct. 1226, cert. denied, 485 U.S. 1009, 99 L. Ed. 2d 703, 108 S. Ct. 1474 (1988); Perkin-Elmer Corp. v. Westinghouse Elec., 822 F.2d 1528, 1533, 3 USPQ2d 1321, 1325 (Fed. Cir. 1987); Lemelson v. United States, 752 F.2d 1538, 1551, 224 USPQ 526, 533 (Fed. Cir. 1985). An accused infringer can avoid infringement by showing that the accused device lacks even a single claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec.-U.S.A., 868 F.2d 1251, 1259, 9 USPQ2d 1962, 1968 (Fed. Cir. 1989). Thus, ignoring the claim limits of a **product-by-process claim** would clash directly with basic patent principles enunciated by the Supreme Court and this court.

In addition, Atlantic's invitation to disregard the claim limitations also would require this court to determine infringement by comparing an accused product with an embodiment of the claims, not the claims themselves. This court has repeatedly emphasized that HN19 **Infringement analysis compares the accused product with the patent claims, not an embodiment of the claims.** See, e.g., Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 824, 11 USPQ2d 1321, 1323 (Fed. Cir. 1989); SRI Int'l, 775 F.2d at 1121; Intervet Am. v. Kee-Vet Labs., 887 F.2d 1050, 1055, 12 USPQ2d 1474, 1478 (Fed. Cir. 1989). Thus, Atlantic's invitation would require this court to directly ignore basic patent principles.

In light of Supreme Court caselaw and the history of **product-by-process claims**, this HN20 **[**43] court acknowledges that infringement analysis proceeds with reference to the patent claims.** Thus, **[*847] process terms in product-by-process claims serve as limitations in determining infringement.**

In so holding, this court acknowledges that it has in effect recognized another reason to regard **product-by-process claims** as exceptional. This court recognizes that **product-by-process claims** will receive different treatment for administrative patentability determinations than for judicial infringement determinations. This difference originated with the Supreme Court's BASF rules -- a difference this court endorsed as recently as 1985. See Thorpe, 777 F.2d at 697.

This court, therefore, rejects Atlantic's invitation to ignore the process limitations in its **product-by-process claims**. This court's infringement rules do not require reversal of the district court's non-infringement finding regarding the Sorbothane process. Neither does this court disturb the PTO's present practice for assessing patentability of **product-by-process claims**.

IV. Lost Profits

The district court determined that Faytex's sale of Surge innersoles did not constitute willful infringement [44] of the patent. The court thus declined to award enhanced damages. The court assessed damages at \$ 68,000 based on a lost profits valuation.

Search - 26 Results - product-by-process w/2 claims

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The district court erred in calculating lost profits. While a market share approach may be appropriate here, the district court did not properly apply this approach. It merely assumed that Faytex was the only other supplier of innersoles and that Atlantic would have made all of Faytex's sales. However, the district court also held, and this court agrees, that Sorbothane innersoles did not infringe. Faytex also sold non-infringing Sorbothane innersoles. Atlantic is not entitled to lost profits on Faytex's sales of Sorbothane innersoles. Moreover the record contains no evidence that Atlantic would have made both Surge and Sorbothane sales.

Thus, this case does not involve a two-supplier market which would justify the assumption that the patent owner would have made all the infringer's sales. See State Indus. v. Mor-Flo Indus., 883 F.2d 1573, 1578, 12 USPQ2d 1026, 1029 (Fed. Cir. 1989), cert. denied, 493 U.S. 1022 (1990). The district court, on remand, will recalculate appropriate damages using [**45] a permissible market share approach, assuming market share analysis is appropriate, if the patent is determined to be valid.

COSTS

As a sanction for casting unsupported and unsupportable allegations that Atlantic filed a frivolous appeal, this court charges costs to Faytex.

VACATED-IN-PART, AFFIRMED-IN-PART, and REMANDED

Source: Legal > Federal Legal - U.S. > Circuit Court Cases - By Circuit > US Court of Appeals Cases - Federal Circuit (1)

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827 F.2d 744, *; 1987 U.S. App. LEXIS 496, **;
3 U.S.P.Q.2D (BNA) 1766

Lewmar Marine, Inc., Appellant, v. Barient, Inc. and Barlow Marine, Ltd., Appellees

Nos. 86-1412, 86-1619

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

827 F.2d 744; 1987 U.S. App. LEXIS 496; 3 U.S.P.Q.2D (BNA) 1766

August 25, 1987, Decided

PRIOR HISTORY: [1]**

Appealed from U.S. District Court for the District of Rhode Island, Judge Pettine.

CASE SUMMARY

PROCEDURAL POSTURE: Appellant challenged the judgment of the U.S. District Court for the District of Rhode Island, which held that patent claims were invalid as anticipated under 35 U.S.C.S. § 102.

OVERVIEW: Appellant, a U.S. subsidiary of a British corporation which sold and serviced sailboat winches made by its British parent, owned two patents. Appellant sued appellees, a California corporation and its Australian parent company, for patent infringement. Appellee corporation claimed that a winch that it had made many years before, the "American Eagle" winch, anticipated each of the patent claims in issue. The district court held that the American Eagle winch anticipated the inventions of all three claims at issue, and the claims were invalid under 35 U.S.C.S. § 102(a). The court disagreed and held the test for anticipation was that which would be an infringement if later in time would anticipate if earlier than the invention. Under this test, the court found that the American Eagle winches did not anticipate the invention of the disputed patents. It therefore reversed the district court's conclusions on the anticipation issue. The court remanded the case to the district court for further proceedings.

OUTCOME: The court reversed the district court's holding for erroneously concluding that certain patent claims were invalid for anticipation. The court remanded the case for further proceedings.

CORE TERMS: winch, speed, drive, crank, rotation, reversal, drum, gear, patent, invention, drive shaft, handle, specification, train, shifting, anticipation, engagement, input, automatically, automatic, driving, anticipate, three-speed, clutch, mechanical advantage, grinder, successive, ratio, overrun, sail

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[Patent Law > Novelty & Anticipation](#)

HN1 Anticipation under 35 U.S.C.S. § 102 requires the presence in a single prior art disclosure of each and every element of a claimed invention.

[Patent Law > Novelty & Anticipation](#)

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HN2 The classic test of anticipation provides that which will infringe, if later, will anticipate, if earlier. Thus a claim fails to meet the novelty requirement if it covers or reads on a product or process found in a single source in the prior art.

Patent Law > Novelty & Anticipation

HN3 Under the current statute, 35 U.S.C.S. § 102, "anticipation" does not carry the same meaning as before and the "classic test" of anticipation must be modified to provide: that which would literally infringe if later in time anticipates if earlier than the date of invention.

Patent Law > Novelty & Anticipation

HN4 It is as a restrictive term of art that the word "anticipation" is used in the court's opinion. All Infringements of a device do not "anticipate" in this sense. Some may be infringements under the doctrine of equivalents which, if one wished to draw a parallel, is somewhat akin to obviousness.

Patent Law > Specification & Claims

HN5 In determining validity, a claim must be construed to uphold its validity if possible.

COUNSEL: Laurence S. Rogers, Fish & Neave, argued for Appellant. With him on the brief was Lars I. Kulleseid.

Karl A. Limbach, Limbach, Limbach & Sutton, argued for Appellee.

JUDGES: Nies, Bissell and Archer, Circuit Judges.

OPINIONBY: NIES

OPINION: [*745] NIES, Circuit Judge

Lewmar Marine, Inc. appeals the July 14, 1986, judgment of the United States District Court for the District of Rhode Island, No. 83-0554 P (May 19, 1986), holding claims 1 and 2 of its United States Patent No. 3,927,580 and claim 11 of its United States Patent No. Re. 30,881 invalid as anticipated under 35 U.S.C. § 102 (1982). We reverse the judgment of invalidity. The judgment that Barlent, Inc. and Barlow Marine, Ltd. Infringed the claims, if valid, was not appealed and, thus, stands. Other defenses apparently remain to be tried.

I

Lewmar, a U.S. subsidiary of a British corporation, sells and services sailboat winches made by its British parent. It also owns two patents directed to sailboat winches. These winches generally used on large sailboats to ease the burden of manipulating [**2] sails, and are of particular [*746] importance on racing yachts such as those that compete for the America's Cup. On such a boat, a winch is operated by a sailor, called a "grinder," who turns the winch handle, or "crank," causing the winch drum to rotate and pull the rope, termed a "line" or "sheet," attached to the sail. The winch gives the grinder a mechanical advantage in pulling on the line, the load on which can fluctuate up to 12,000 pounds. At the start of hauling in, however, the sail is loose and little force is needed to pull in the line. At this point the line should be pulled in quickly, using the highest speed of the winch or "first," that is, the winch speed is selected to give the lowest mechanical advantage and, consequently, the highest speed. As the sail fills with wind and the line tightens, the force exerted to overcome the mounting wind pressure must increase. This increase in force is facilitated by shifting the winch into successively lower gears, that is, gears affording a greater mechanical advantage.

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Another sailor, the "tailer," pulls on the end of the line coming off the winch in order to maintain tension on the line, thereby keeping it tightly wound [**3] around the winch drum. If the tailer pulls the line at a faster rate than the winch drum is being cranked, as is not uncommon when the line is slack, the winch drum will "overrun" by spinning faster than the grinder is cranking. In early winch designs, drum overrun caused the winch to inadvertently shift to a lower gear, or "override."

In the claimed inventions and in other winches, the gears are changed by reversing the direction in which the crank is turned. The '580 claims are directed to a winch with at least three speeds which can be selected by successive crank reversals, and which will not inadvertently shift upon drum overrun or otherwise. n1 The '881 claim is directed to a winch with at least three speeds which can shift in the same fashion as the '580 winch, but can also be operated as a two-speed winch. n2 The '881 [*747] patent discloses a three-speed winch with first and second speed hold, that is, the winch can be operated to shift between first and second and back by successive crank reversals. The need for the different types of operation, three-speed and two-speed, stems from the different types of sail handling necessitated by different types of sailing [**4] maneuvers. When sailing into the wind, the three-speed operation is used to take advantage of the full range of gears. When sailing with the wind, speed in sail handling is the focus, and the full range of gears is not needed.

- - - - - Footnotes - - - - -

n1 The claims of the '580 patent that are alleged to be infringed are claims 1 and 2. Those claims read:

1. A winch in which there are more than two drive trains between a drive shaft and the winch drum offering respectively different drive ratios of drive of the drum in one sense of rotation, at least one of the driving trains having a disconnectable drive means, the ratios being successively engageable by successively opposite directions of rotation of the drive shaft, a preselector operable to determine which one of two of the said drive ratios engageable upon a given said direction of rotation of the drive shaft will be engaged, the preselector being thus operable by causing connection or disconnection of the disconnectable drive means in one of the said drive trains, and means automatically to disconnect the disconnectable drive means only upon reversal of the drive shaft from the given said direction of rotation.
2. A multispeed winch having a static body, a drum, bearing means supporting the drum on the body for rotation about an axis of rotation, a drive shaft, bearing means supporting the drive shaft in the body for rotation about the same axis of rotation, a plurality of drive linkages between the shaft and the drum operable to drive the drum in a single sense of rotation at different speeds upon successive rotation of the drive shaft at the same speed in successively opposite senses of rotation, one of the drive linkages including a manually engageable coupling means having engageable driving and driven members whose engagement constitutes engagement of the coupling, in which condition the driving member is arranged to drive the driven member unidirectionally in a driving sense of rotation upon relative rotation of the driving and driven members in one direction of rotation, the driving member, at least when the coupling means is engaged being operatively connected to the drive shaft for rotation when the drive shaft rotates in either sense, and means for automatically disengaging the coupling only when the drive shaft rotates in one sense of rotation relative to the static body of the winch, the drive linkage in at least the highest of the drive ratios including a unidirectional drive means oriented to prevent relative rotation of the driving and driven members in the sense opposite to the said one direction of rotation by the drum through that linkage. [**5]

n2 Claim 11 of the '881 patent reads as follows:

11. A manually powered winch comprising: a winch drum rotatable about a central axis; drive input;

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at least first, second and third drive trains of respectively different drive ratios between the drive input and winch drum;

means for causing successive driving engagement of said second drive train and disengagement of said first drive train upon a first reversal of direction of rotation of the drive input and driving engagement of said third drive train and disengagement of said second drive train upon a second reversal of direction of rotation of the drive input to drive the drum in one direction of rotation; and

means unaffected by a first reversal of the direction of rotation of the drive input engaging said causing means and operable to override and prevent the engagement of said third train by said causing means so that the first train is engaged upon said second reversal of direction of the drive input.

- - - - - End Footnotes - - - - -

Lewmar sued Barent, Inc., a California Corporation, and Barlow Marine, Ltd., Barent's Australian parent (collectively **[**6]** Barent), for infringing claims 1 and 2 of the '580 patent and claim 11 of the '881 patent. Barent defended *inter alia* on the ground that a four-speed winch it had made many years before, the "American Eagle" winch, anticipated each of the claims in issue. The American Eagle winch was designed in 1964 and is so named because it was used on a 12-meter yacht, the American Eagle, which participated in the trials for the 1964 defense of the America's Cup. The district court held that the American Eagle winch anticipated the inventions of all three claims at issue and thus held the claims invalid under 35 U.S.C. § 102(a).

II

HN1 Anticipation under 35 U.S.C. § 102 requires the presence in a single prior art disclosure of each and every element of a claimed invention. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2D (BNA) 1051, 1053 (Fed. Cir. 1987); *Carella v. Starlight Archery*, 804 F.2d 135, 138, 231 U.S.P.Q. (BNA) 644, 646 (Fed. Cir.), modified on reh'd, 1 U.S.P.Q.2D (BNA) 1209 (Fed. Cir. 1986); **[**7]** *Jamesbury Corp. v. Litton Indus. Prods., Inc.*, 756 F.2d 1556, 1560, 225 U.S.P.Q. (BNA) 253, 256 (Fed. Cir. 1985); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 U.S.P.Q. (BNA) 481, 485 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 U.S.P.Q. (BNA) 193, 198 (Fed. Cir. 1983). The district court acknowledged that basic principle, slip op. at 21-22, but went on to make the following observations:

As the defendants put it, "that which infringes if later in time will anticipate if earlier than the patent. . . . The inquiry as to anticipation is symmetrical with the inquiry as to infringement of a patent." **HN2** The classic test of anticipation provides: "That which will infringe, if later, will anticipate, if earlier. Thus a claim fails to meet the novelty requirement if it covers or reads on a product or process found in a single source in the prior art."

Id. at 22. While "the classic test of anticipation" was indeed as stated, n3 **[**8]** **HN3** under the current statute "anticipation" does not carry the same meaning as before, and the "classic test" must be modified to: That which would *literally* infringe if later in time anticipates if earlier than the date of invention.

- - - - - Footnotes - - - - -

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n3 See Miller v. Eagle Mfg. Co., 151 U.S. 186, 203, 38 L. Ed. 121, 14 S. Ct. 310 (1894); Knapp v. Morss, 150 U.S. 221, 228, 37 L. Ed. 1059, 14 S. Ct. 81 (1893); Commercial Mfg. Co. v. Fairbank Canning Co., 135 U.S. 176, 194, 34 L. Ed. 88, 10 S. Ct. 718 (1890); Peters v. Active Mfg. Co., 129 U.S. 530, 537, 32 L. Ed. 738, 9 S. Ct. 389 (1889).

- - - - - End Footnotes - - - - -

As noted in Argus Chem. Corp. v. Fibre Glass-Evercoat Co., 759 F.2d 10, 14 n. 5, 225 U.S.P.Q. (BNA) 1100, 1102 n. 5 (Fed. Cir.), cert. denied, 474 U.S. 903, 106 S. Ct. 231, 88 L. Ed. 2d 230 (1985), prior to the Patent Act of 1952, the term "anticipation" was used in a broader sense than [**9] it is today. The pre-1952 cases often used the term "anticipation" to mean that the subject matter of the claims either was found exactly in the prior art (i.e., lacked novelty) or, though different, was not "inventive" over the prior art. See In re Clark, 522 F.2d 623, 635 n. 9, 187 U.S.P.Q. (BNA) 209, 219 n. 9 (CCPA 1975) (Miller, J., concurring). In the 1952 Act, Congress replaced the latter concept with 35 U.S.C. § 103, the requirement of nonobviousness. See generally [*748] Rich, *Laying the Ghost of the "Invention" Requirement*, 1 APLA Q.J. 26 (1972), reprinted in *Nonobviousness -- The Ultimate Condition of Patentability*, 1:501 (J. Witherspoon ed. 1980) (hereinafter *Nonobviousness*); Rich, *The Vague Concept of "Invention" as Replaced by Section 103 of the 1952 Patent Act*, 46 J. Pat. Off. Soc'y 855 (1964), reprinted in *Nonobviousness*, *supra* at 1:401; P. Federico, *Commentary on the New Patent Law*, 35 U.S.C.A. 1, 20-23 (1954). "Anticipation" thereafter became a restricted term of art in patent law meaning that the claimed invention lacked novelty, or was unpatentable under [**10] 35 U.S.C. § 102. In re Clark, 522 F.2d at 635 n. 9, 187 USPQ at 219 n. 9, n4 HN⁴. It is as a restrictive term of art that the word is used in this opinion. All infringements of a device do not "anticipate" in this sense. Some may be infringements under the doctrine of equivalents which, if one wished to draw a parallel, is somewhat akin to obviousness.

- - - - - Footnotes - - - - -

n4 It is not surprising that the older usage of "anticipation" dies hard and has continued to appear in cases after 1952, e.g., Tate Engineering, Inc. v. United States, 477 F.2d 1336, 1342, 201 Ct. Cl. 711, 175 U.S.P.Q. (BNA) 115, 119 (1973).

- - - - - End Footnotes - - - - -

III

The '580 patent specification discloses a winch mechanism which includes the drum and three gear trains in a single pedestal. The drum is turned unidirectionally by a manually operated crank. Since the invention requires at least three speeds and the crank operates in [**11] only two directions of rotation, the same direction of the crank must, therefore, be used for more than one speed. The prior art shows two-speed winches where the change in gears, e.g., from first to second and back to first, is accomplished upon reversal of the crank. It also shows three-speed winches which had a problem of shifting inadvertently because of drum override, and four-speed winches which change speed by operating a clutch at the time of moving from second to third. Lewmar asserts that its '580 patent was the first to combine, in a single winch, override protection and automatic shifting through three gears only upon crank reversal.

According to the specification, the grinder pre-selects first speed by pressing a button in the hub of the crank handle, which engages a clutch member with the first speed gear train. Upon crank reversal, the clutch member disengages from the first speed gear train because of the configuration of the mating clutch and gear teeth and the second speed gear train engages. On next reversal, the winch shifts to third (rather than first) because of the

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previous disengagement of the clutch member. Thus, after pre-setting in first, the '580 winch [**12] will progress automatically, that is, without further adjustments, through first, second, and third upon successive reversals of the crank. The invention of the '881 patent has the improvement of being able to lock out the third speed and thereby use first and second on successive crank reversals, i.e., 1-2-1-2. This improved winch was used on nine yachts in the 1983 America's Cup Race.

The American Eagle winch which the district court found anticipated each of the subject claims is a four-speed winch with planetary gears. The gears shift from first to second upon crank reversal. In the high range (1-2) the teeth on the face of the ring gear are engaged with corresponding teeth in the base of the pedestal acting as a clutch. By operation of a foot pedal, the clutch is disengaged, the planetary gear system drops away from the pedestal base, and the ring gear is free to rotate. Operation of the gear system in this position by crank rotation affords the low range, speeds 3 and 4. Speeds 1 and 3 are thus obtained in one direction of rotation of the crank handle and speeds 2 and 4 in the other.

The court described the operation as follows:

As I have already explained, the three [**13] speed automatic shifting of the American Eagle winch involves speeds 2, 3 and 4. With the winch being operated in speed 2, the foot pedal is pressed to the low speed range and the winch will continue [*749] in speed 2 as long as there is tension on the crank handles. The torsion spring exerts a counterbalancing force on the planetary gears to prevent them from dropping down and causing engagement of the low speed range gear train. When the tension on the winch handles is removed or the direction of cranking is reversed, n5 the selector/compression spring (compressed during pedal depression to low speed range) exerts sufficient force on the selector level/carrier shifter to cause the planetary gears to drop down into the low speed range position; the winch on this reversal goes into speed 3 and a further reversal causes the winch drum to turn as speed 4, thus completing the automatic three speed shifting cycle from second to third to fourth.

Without the torsion spring, the winch would not be able to shift automatically through a three speed range. Instead the shifting would be automatic only through speeds 3 and 4 since the instant the foot pedal was depressed to select the [**14] low range, the planetary gears would drop by their own weight to cause engagement of the low speed (3/4) range. Therefore, the properly adjusted torsion spring is a necessary component to allow automatic shifting over a three speed range.

Slip op. at 23-24 (emphasis added).

- - - - - Footnotes - - - - -

n5 Barient does not dispute that the American Eagle winch shifted from high 1-2 range to low 3-4 range on release of pressure on the crank handle. Barient explains an incongruous statement in footnote three of the district court's opinion, that disconnection on release of tension was due to an improperly adjusted spring, as referring not to the American Eagle but to another winch. There is simply no evidence that the American Eagle winch did not change from high to low range upon release of pressing on the crank handle thereby causing it to shift out of second. The only evidence on this point is the testimony of Guangorena, that the spring was properly adjusted, and the testimony of Huggett, that the spring could not be adjusted. Further, Barient's witness Mr. James Michael testified that, operating under wind

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conditions, the grinders needed to maintain pressure on the crank handle of the American Eagle winches in order to avoid inadvertent shifting from second speed to fourth speed. Lewmar's witness Mr. William McKay, Jr., who had inspected another Mark II winch aboard the yacht Barlovento, confirmed Michael's testimony. Guangorena's testimony is also in accord with the finding set out in the body of the opinion. Since the statement in the footnote is inexplicable, it need concern us no further.

- - - - - End Footnotes - - - - - [**15]

A major dispute between the parties is whether the American Eagle winch actually had the torsion spring which was necessary to prevent immediate shifting (changing from the high 1-2 range to the lower 3-4 range) upon depressing the foot pedal. The district court found from the testimony that the torsion spring was not a later addition, and we will accept that as a fact for purposes of our analysis.

The question we address is whether the above-described mechanism meets the limitation "means automatically to disconnect the disconnectable drive means only upon reversal of the drive shaft from the given said direction of rotation" of claim 1 and comparable language of claim 2. We conclude it does not.

The claim limitation could possibly read on the American Eagle winch if the word "only" did not appear in that clause. The word "only," however, is there and may not be read out of the claim. Indeed, ^{HNS} in determining validity, a claim must be construed to uphold its validity if possible. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. (BNA) 929, 932 (Fed. Cir. 1984). [**16] Here, the district court construed the word "only" unnecessarily in a manner which led to a finding of anticipation.

The district court interpreted the term "only" in claims 1 and 2 of the '580 patent as follows:

The word "only" is used in an operational sense, i.e., where the winch is being operated (with tension on the handles) [*750] the disconnectable drive means will automatically disconnect *only* on crank reversal.

Slip op. at 33 n. 3. The court's interpretation of the word "only" to mean when the winch was being operated under a load is contrary to the inventor's description of his invention and to the invention's purpose stated in the specification. The court did not refer to the specification in its opinion and apparently did not consider it. This was error.

The specification of the '580 patent states that one of the problems which the claimed invention sought to overcome was that "one of the gears [in prior art devices] can slip out of engagement whenever pressure is taken off the crank handle." The claims, as interpreted by the specification, do not use "only" in an operational sense, but in an absolute sense. That the claims use "only" in [**17] an absolute sense is bolstered by the prosecution history. The inventor's attorney argued to the patent examiner that one of the "two essential legs of the present invention" is the "means preventing spurious automatic operation." Barient points out that, during prosecution, Lewmar distinguished certain prior art as inadvertently shifting upon drum overrun. From that argument, Barient asserts that the scope of the claimed invention is limited to preventing spurious automatic shifting as a result of drum overrun. We disagree. Nothing in the specification or prosecution history limits the claimed invention to preventing inadvertent shifts due to drum overrun. The district court's interpretation of the term "only" as limited in an operational sense, i.e., "only" except for pressure on the crank handle, is contrary to the specification and the prosecution history, and thus is wrong as a matter of law.

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When claims 1 and 2 are properly interpreted, the American Eagle winch does not anticipate because shifting does not occur *only* upon crank reversal. That winch does shift from second to third only upon reversal. However, it will also shift from second to fourth if pressure is released [**18] from the crank and the crank is then turned in the same direction of rotation. Thus, shifting does not occur *only* upon the grinder's reversing the direction of his cranking.

Barient argues that release of pressure on the crank handle necessarily results in a slight reversal of the drive shaft and that, therefore, shifting literally occurs "only upon reversal of the drive shaft" (claim 1) and "only when the drive shaft rotates in one sense of direction" (claim 2). Thus, per Barient, those winches meet the limitations literally, even if the term "only" is interpreted in an absolute sense. Barient points to testimony of Jesus Guangorena, the designer of Barient's winches, and Marshall Dann, Lewmar's expert witness, to the effect that the gears of the American Eagle winch will not disengage without a slight reversal of the drive shaft. That is so, Barient asserts, because the winch is held in second gear by frictional resistance, particularly between the teeth on the face of the ring gear and those in the pedestal, which must be eliminated before the gears can shift. Guangorena described the required crank shaft rotation as "a very small angle of arc" and stated that it occurred [**19] "automatically" by "easing off pressure." Dann described such motion as "very trivial." Accepting Barient's assertion as fact *arguendo* (the district court made no findings in this regard), we reject Barient's argument. Returning to the specification's statement that one of the problems with the prior art winches was that "the gear change . . . is so simple that one of the gears can slip out of engagement whenever pressure is taken off the crank handle," the specification makes clear that the very small angle of crank rotation which occurs upon release of pressure from the crank handle does not fall within the claim limitations. The claims clearly contemplate an affirmative act by the grinder to reverse the direction of the crank handle.

In sum, the American Eagle winches were erroneously held to anticipate the invention of claims 1 and 2 of the '580 patent.

IV

Turning to Claim 11 of the '881 patent, the district court held that the claim reads [*751] literally on the American Eagle winch. The '881 patent discloses a three-speed winch capable of operation either through the full three-speed range or through just the first two speeds. The American Eagle winch is a four-speed [**20] winch. The district court explained how the claims, written to encompass more than just the three-speed winch disclosed, could be read on the four-speed winch:

There are three different drive trains capable of being automatically shifted on the American Eagle winch. They are second, third and fourth. (The winch includes a still higher speed drive train -- first -- which is not included in the automatic shift sequence.) Therefore, the comparison must be between first, second and third speeds of the 881 winch and second, third and fourth speeds of the American Eagle winch. While it is claimed by plaintiff that the terminology "first, second and third" refers to the three highest speeds, there is no support in the patent for this assertion. Since the 881 winch has only three speeds, the claim can be read on any consecutive set of three speeds of a winch which itself is capable of more than three speeds. In the American Eagle winch this would be the three speeds: second, third and fourth.

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Slip op. at 33 n.4. Lewmar contends that the district court erred in interpreting the claim's first, second and third speeds to cover the second, third and fourth speeds of the American [**21] Eagle winch. Rather, Lewmar contends, the claim should be limited to cover only the first, second and third speeds of the American Eagle winch. Lewmar relies on the testimony of the inventor Huggett to that effect. According to Huggett, it is clear from the disclosure that "first speed is the speed of least mechanical advantage." Indeed, the specification refers to the first speed as "the ratio of lowest mechanical advantage to the user," and "that of highest drive transmission between the drive input shaft and the drum and therefore of lowest mechanical advantage." But the specification also describes the third speed as "that of greatest mechanical advantage." Thus, applying Lewmar's analysis, the claim's third speed could only cover the fourth speed of the American Eagle winch. The specification provides no basis for Lewmar's argument. Nor are we persuaded that Huggett's testimony is sufficiently specific with respect to the meanings which should be given these words of the claims.

It is undisputed that the claim covers winches with greater than three speeds. Lewmar contends that the hold feature is used to restrict the winch to operation in the two highest speeds, the two fastest. [**22] The claim does not, however, explicitly limit its coverage to winches with a hold feature for the two highest speeds. Nor does the specification hint that the invention is limited to a winch with a hold feature for the two highest speeds. Lewmar does not even argue that the prosecution history contains such a limitation. In short, we agree with the district court that there is no basis in the record for the limitation urged by Lewmar.

That is not to say that the American Eagle winch anticipates claim 11. The last element of claim 11 requires:

means unaffected by a first reversal of the direction of rotation of the drive input engaging said causing means and operable to override and prevent the engagement of said third train by said causing means so that said first train is engaged upon said second reversal of direction of the drive input. [Emphasis added.]

The district court defined "first train" to mean second speed of the American Eagle winch, "second train" to mean third speed of the American Eagle winch, and "third train" to mean fourth speed. Thus, the last element of the claim requires that the second reversal of direction of the drive input, at which [**23] time the winch is in third speed, cause the American Eagle winch to shift to second speed. In other words, the hold feature of the claims requires that the American Eagle winch, to anticipate, automatically shift between second and third speeds. It is undisputed that it does not. Notwithstanding that the last limitation of claim 11 does not literally read on operation [*752] of the American Eagle winch, the district court held that the American Eagle winch's automatic operation between first and second speeds satisfied that limitation. That holding is wrong as a matter of law. n6

- - - - - Footnotes - - - - -

n6 We find no merit in Barient's derivation argument, which we note was not addressed by the district court.

- - - - - End Footnotes - - - - -

Conclusion

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We reverse the judgment of the district court insofar as it declares that claims 1 and 2 of U.S. Patent No. 3,927,580 and claim 11 of U.S. Patent No. Re. 30,881 are invalid for anticipation, and the case is remanded to the district court for further proceedings consistent herewith.

REVERSED-IN-PART AND **[**24]** REMANDED.

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